
One of the most
important environmental
protection projects
of our time.

# About SKB

## Clear responsibility and sound financing

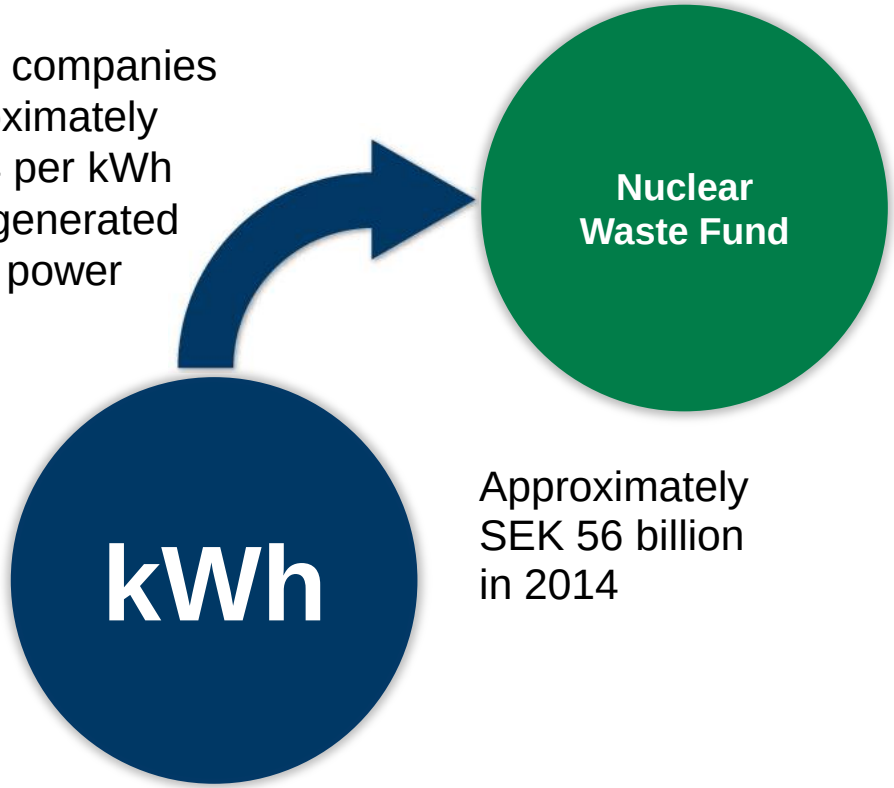
VATTENFALL

FORSMARKS KRAFTGRUPP

uniper

okg – part of the energy business Uniper

The owner companies fund approximately SEK 0,044 per kWh electricity generated by nuclear power




Approximately SEK 56 billion in 2014

## Our task

Regardless of the future of nuclear power, nuclear waste already exists from the Swedish nuclear power plants.

This waste must be taken care of to protect people and the environment.

This task is so extensive that we regard it as one of Sweden’s most important environmental protection projects.

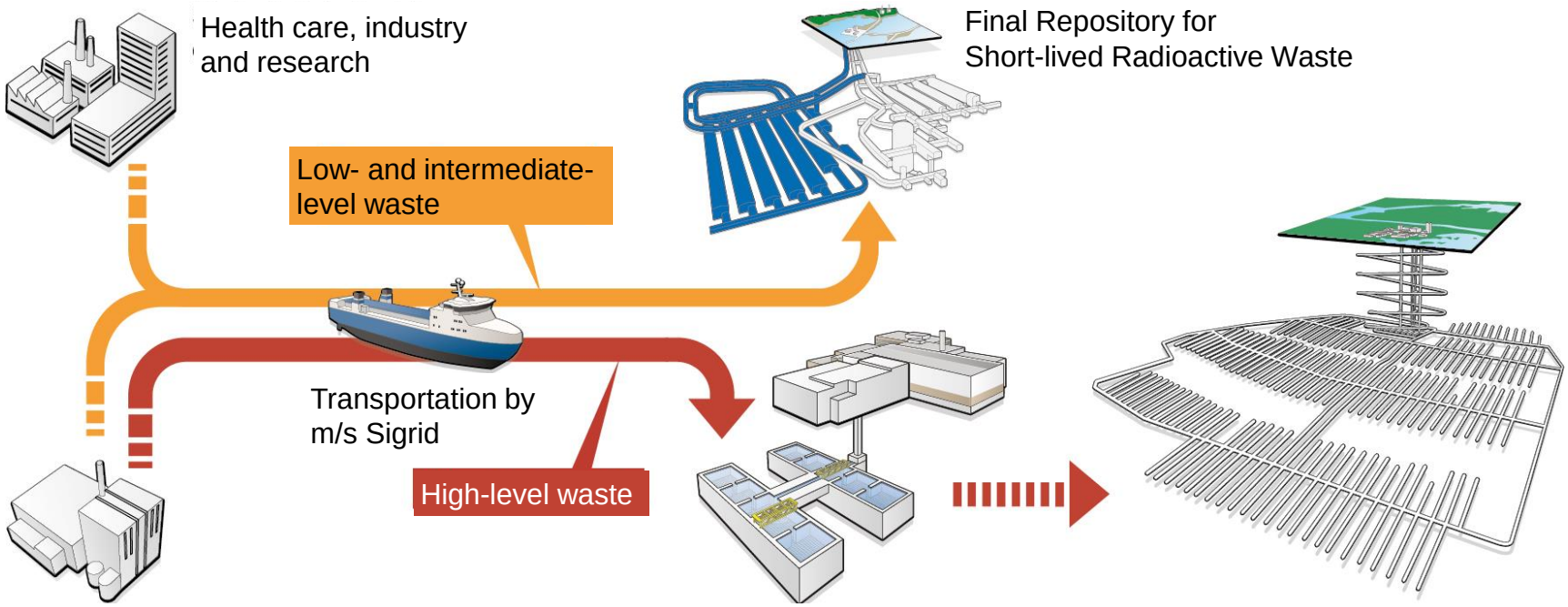
# Clear roles and legislation

- The Government
- Swedish Radiation Safety Authority
- Nuclear Waste Council
- Land and Environment Court
- Municipalities

- Financing Act
- Nuclear Activities Act
- Environmental Code
- Radiation Protection Act
- Planning and Building Act

# How waste is handled

## The Swedish system

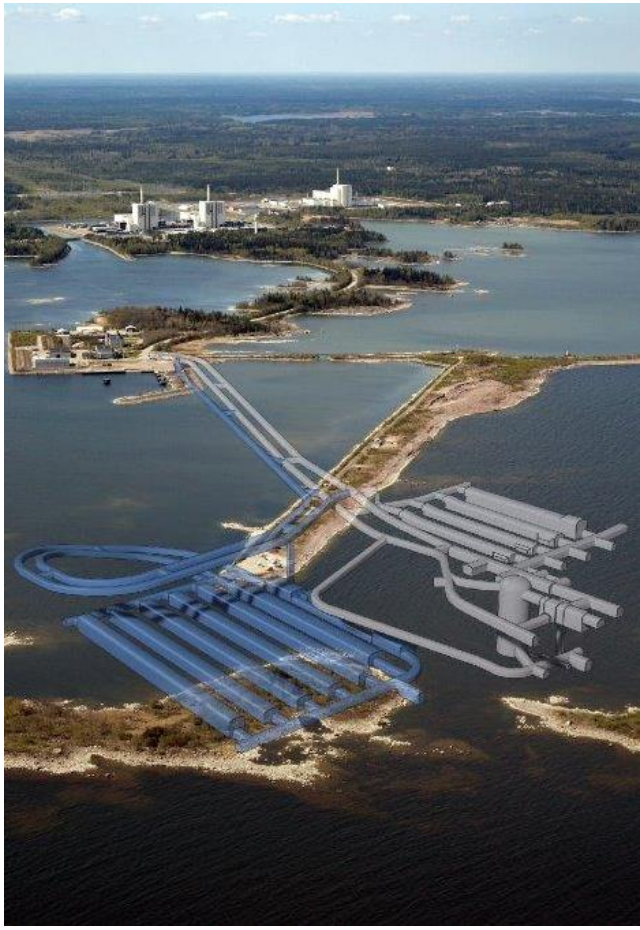


# How waste is handled

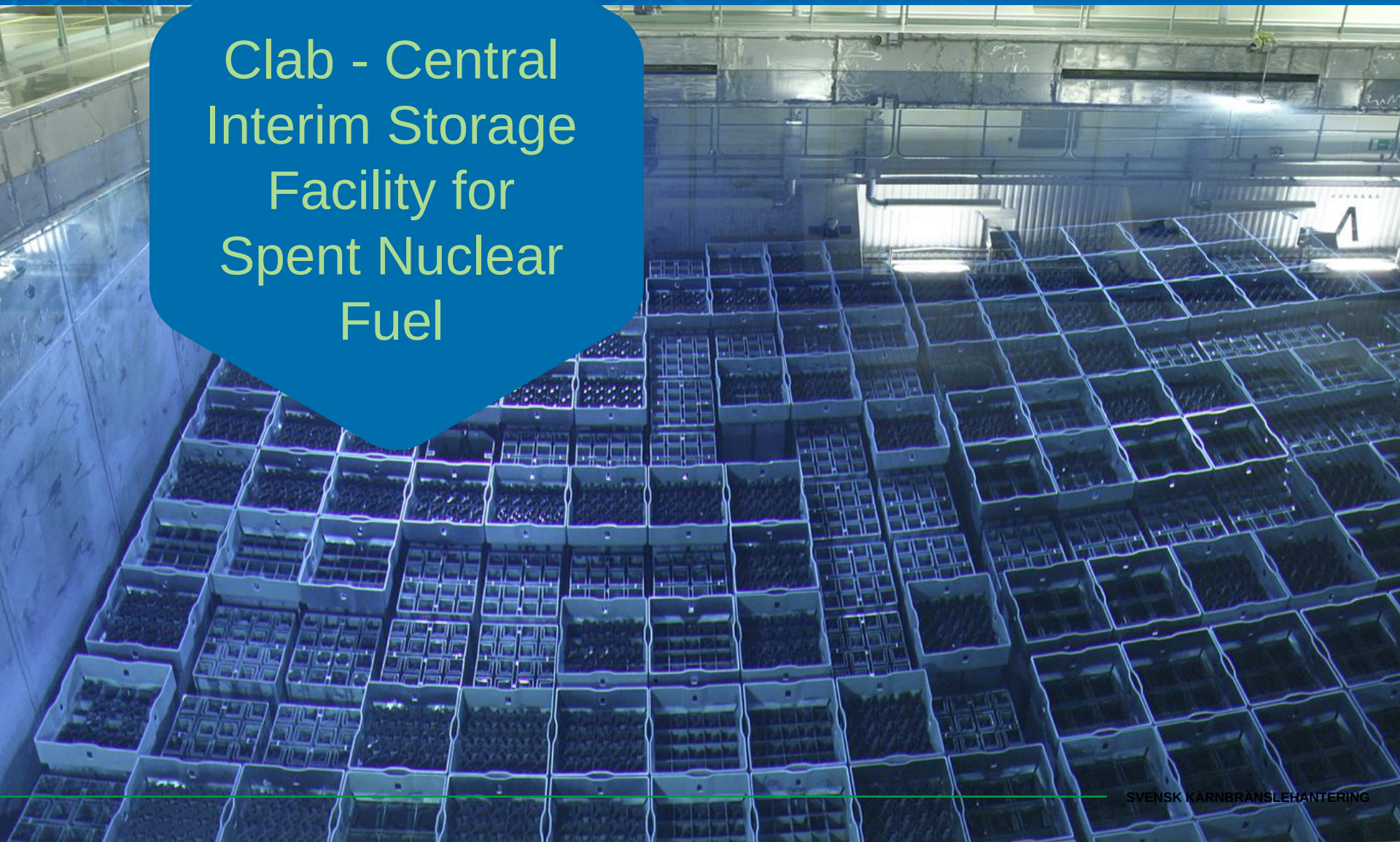
## m/s Sigrid

# Extension SFR

- Increased storage capacity
- Decommissioning waste from Sweden's nuclear facilities
- Interim storage facility, long-life waste (core components)
- Application 2014



# Clab - Central Interim Storage Facility for Spent Nuclear Fuel



# Clab today

In operation since 1985

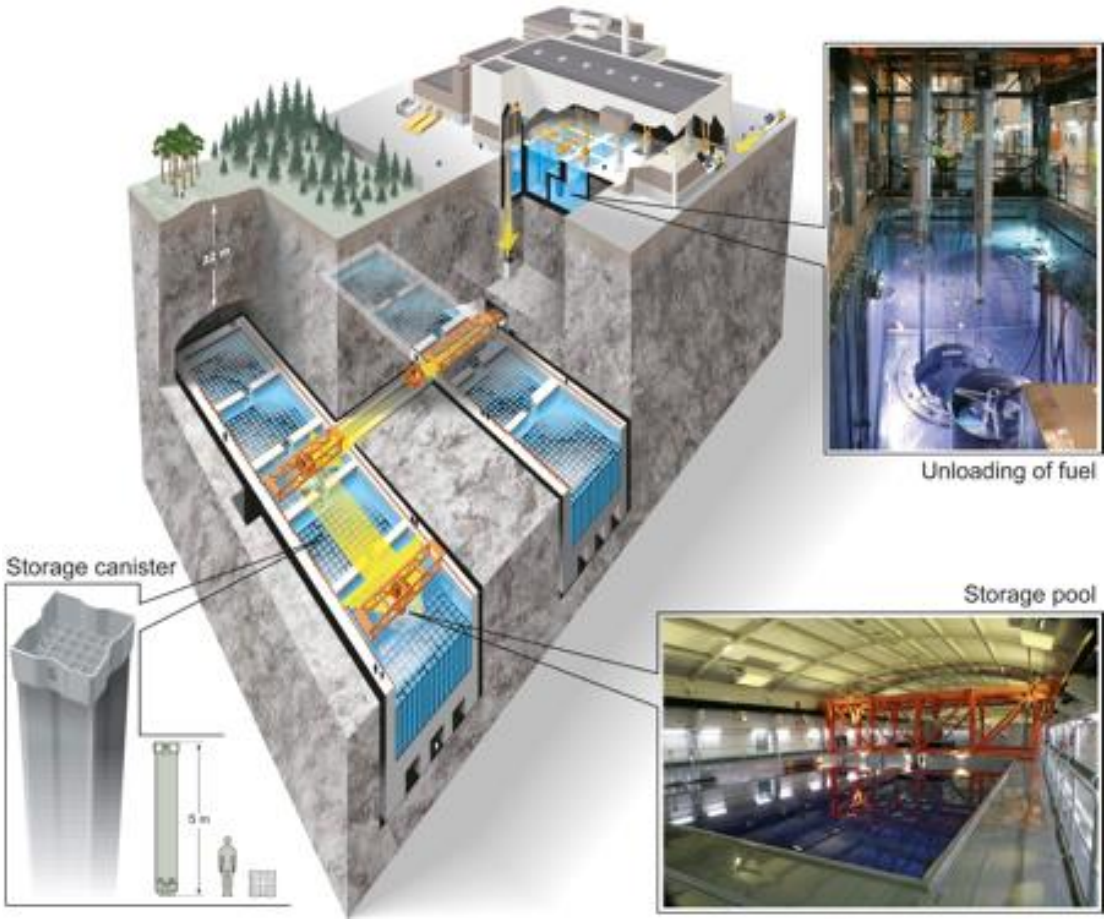
Interim storage for all spent nuclear fuel in Sweden

~200 tonnes received annually, 70 transport casks

In storage 6 300 tonnes uranium

Permit to store 8000 tonnes

Ten storage pools (> 30 000 m³ desalinated water) situated about 40 meters below ground



# Challenge

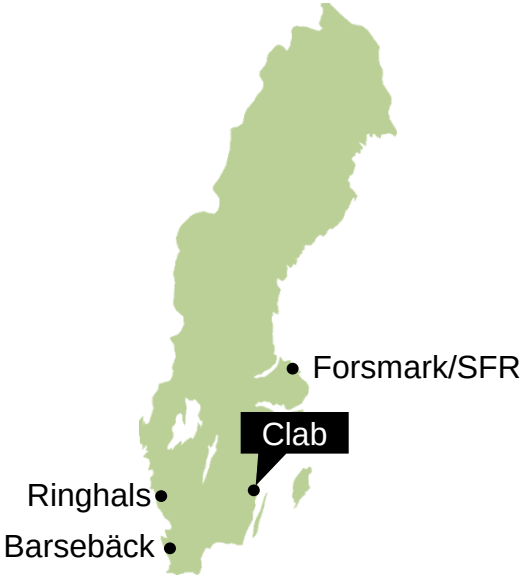
Clab will reach 8000 tonnes of used fuel about 2022 in 2015 we applied for a new permit of 11.000 tonnes

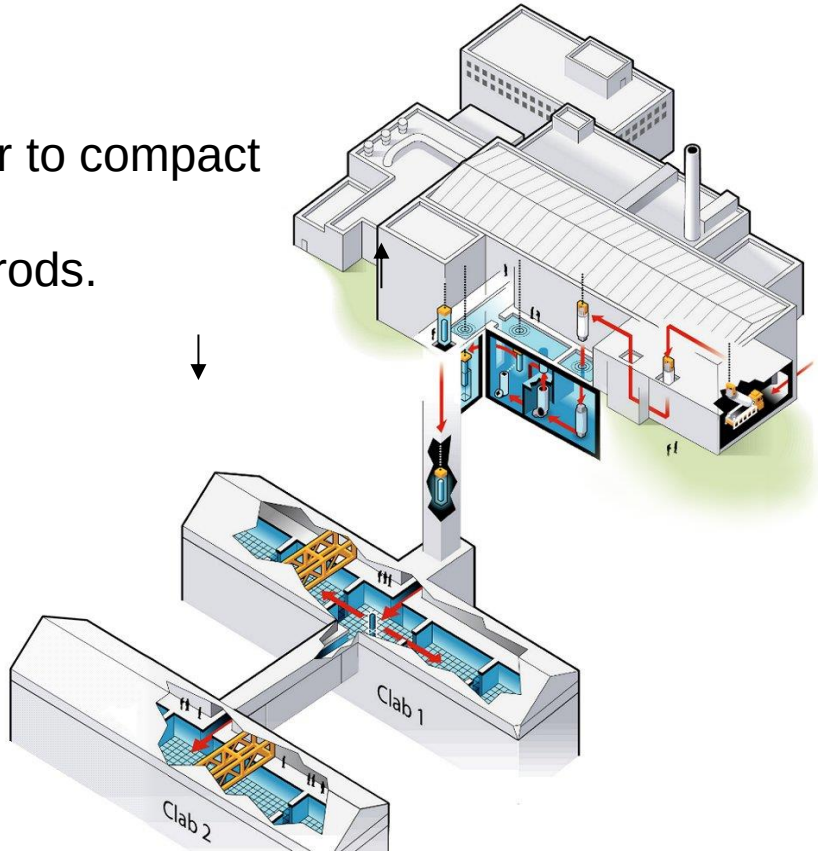
# Solution

• How can we make sure that we use existing storage pools more efficiently?

Two steps:

- Move fuel assemblies from normal canister to compact canister
- Relocate reactor components and control rods.




Grafik: Mats Jerndahl

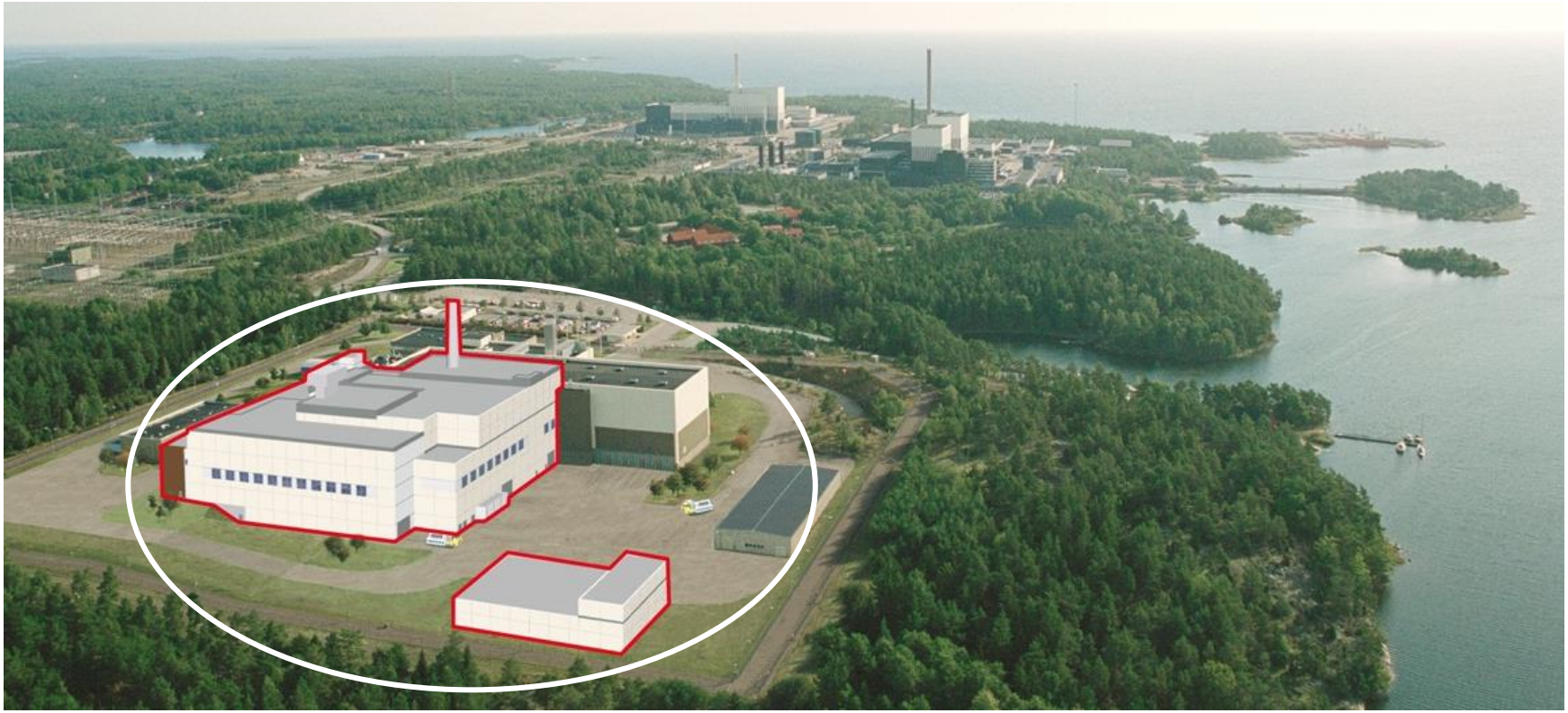
# What´s a compact canister

Normal canister Compact canister

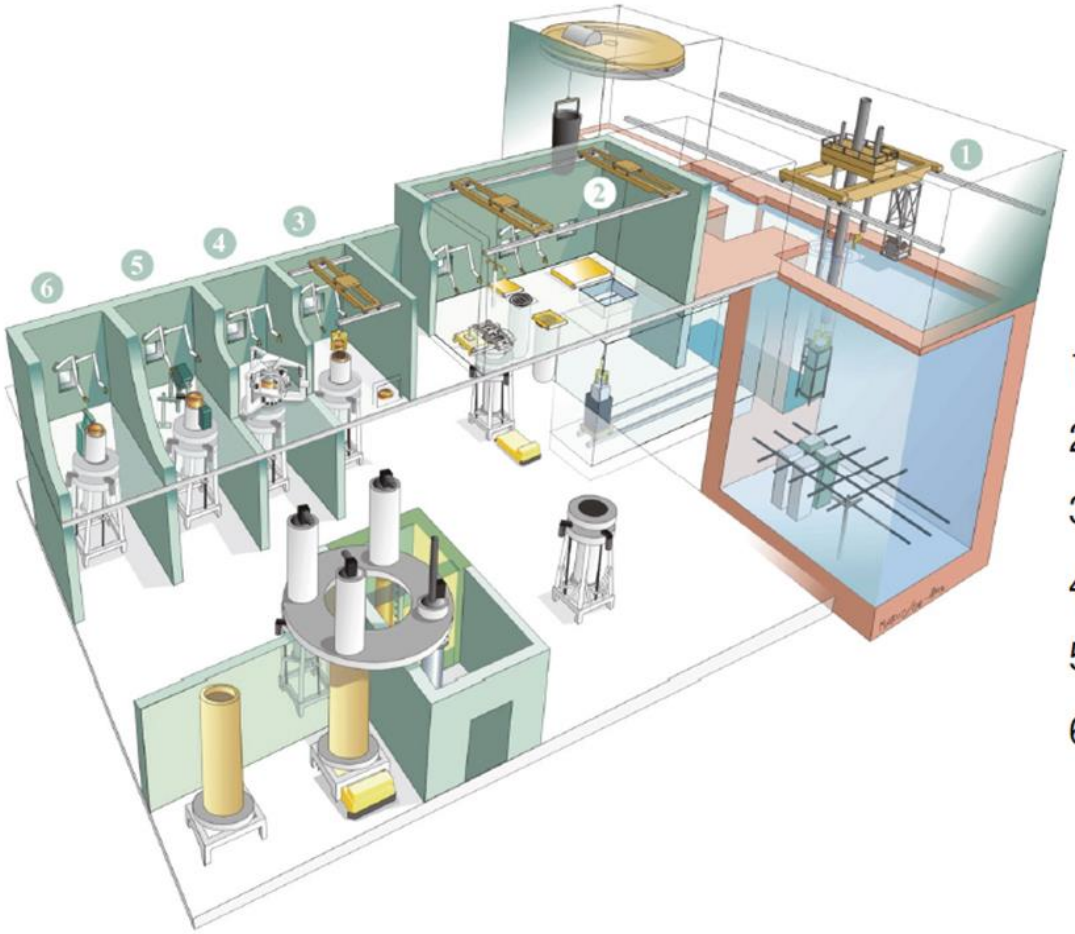
| Fuel | Normal canister | Compact canister |
|---|---|---|
| BWR | 16 | 25 |
| PWR | 5 | 9 |

# How waste is handled

## Encapsulation plant



# Clink




1 Handling Pool

2 Handling Cell

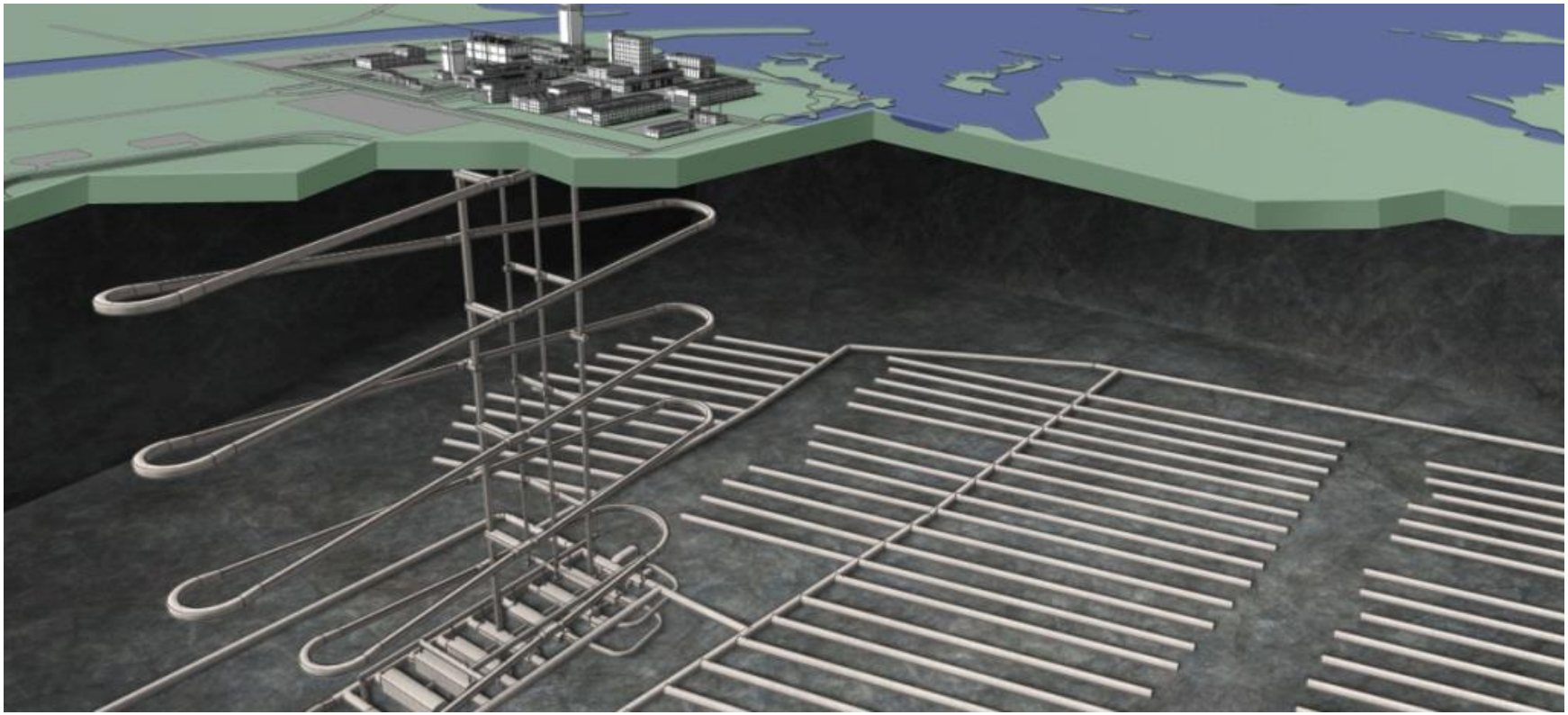
3 Inerting

4 Welding

5 Non Destructive Testing

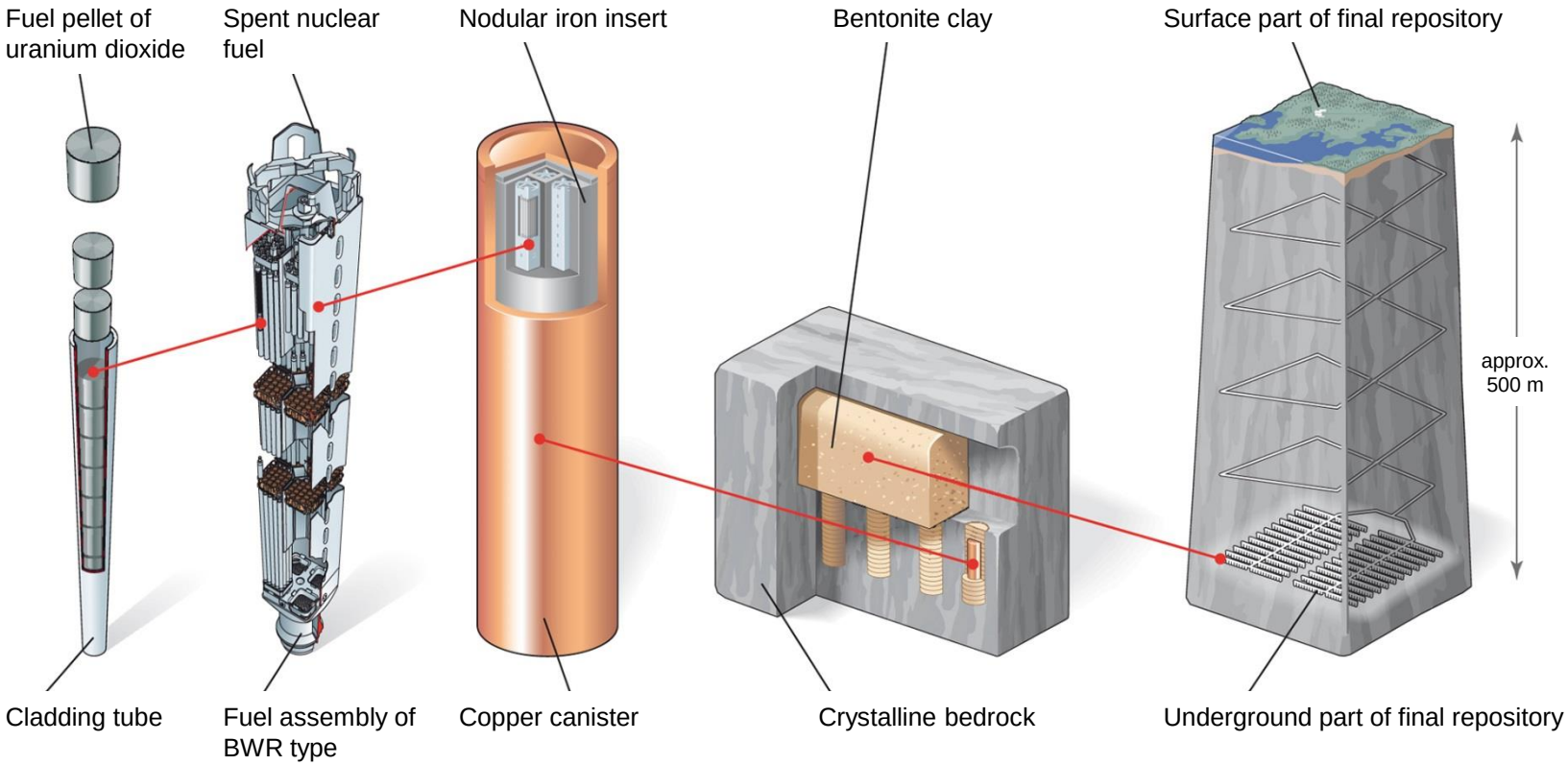
6 Machining

## The Spent Fuel Repository at Forsmark



# Spent Fuel Repository

## SKB's method

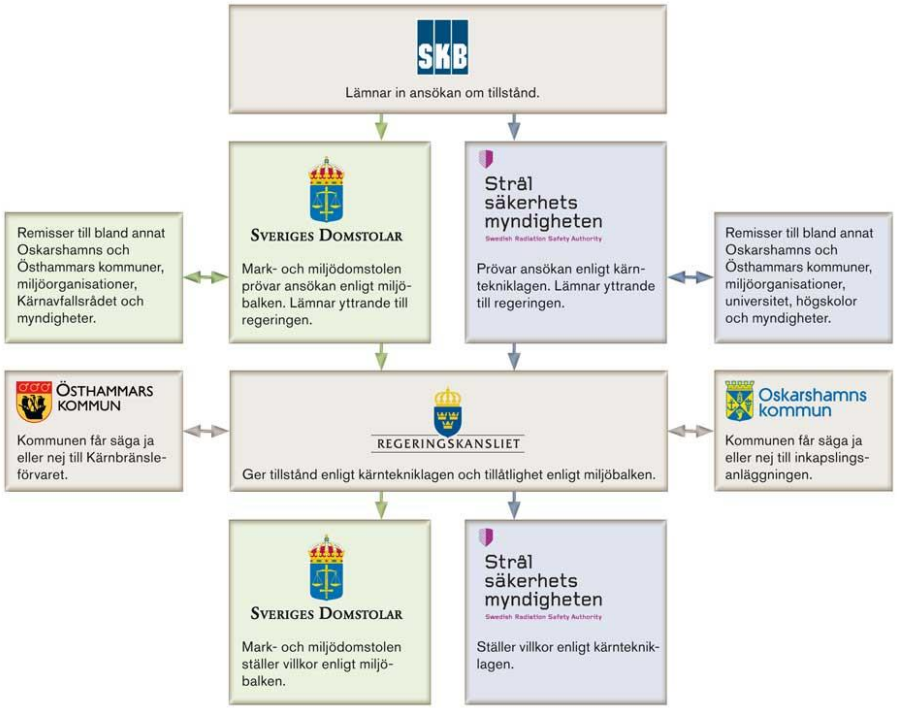


# Spent Fuel Repository

## What has SKB applied for?

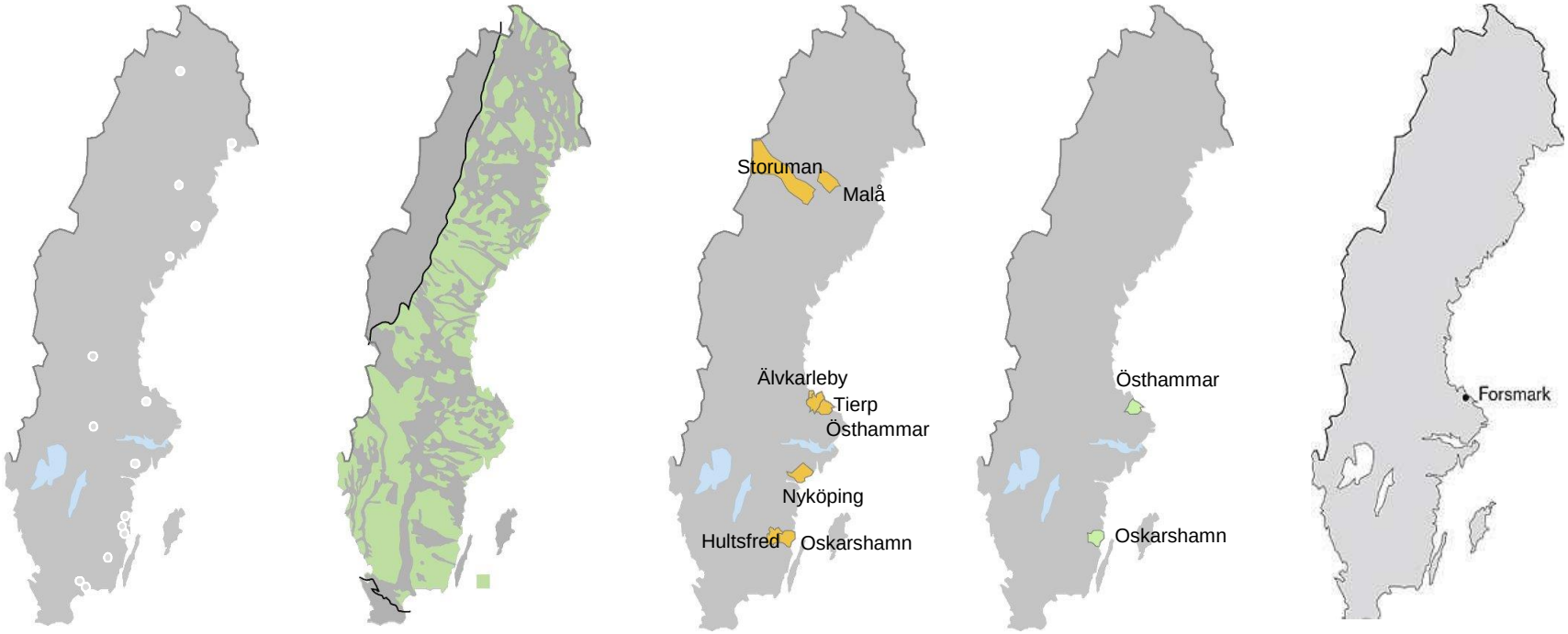
- To construct and operate a facility (Clink) for storage of spent nuclear fuel and core components
- and for encapsulation of spent nuclear fuel
- To construct and operate a facility (The Spent Fuel Repository) for final disposal of spent nuclear fuel and nuclear waste
- Final disposal in accordance with the KBS method with vertical deposition of the canisters (KBS-3V)

# The Licensing Process



# Our task

## Finding a site




| Type areas | General siting studies | Feasibility studies | Site investigations | Siting |
|---|---|---|---|---|
| **1977-1985** | **1990s** | **1993-2002** | **2002-2008** | **2009** |

# Our task

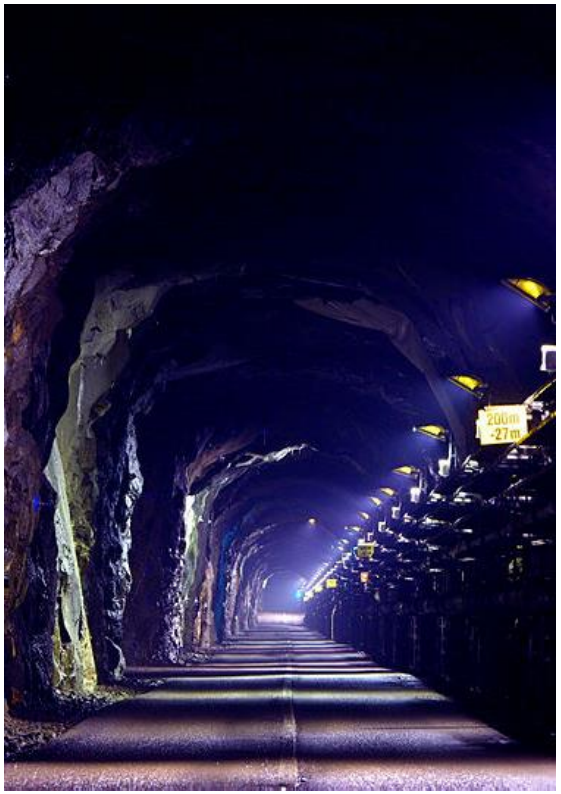
## Äspö Hard Rock Laboratory

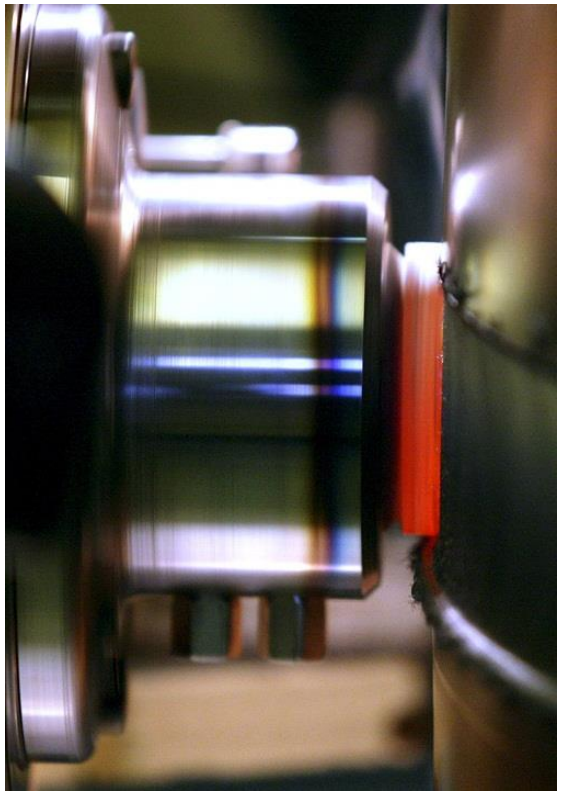
# Our task

## Canister Laboratory

# Our task

## International research collaboration

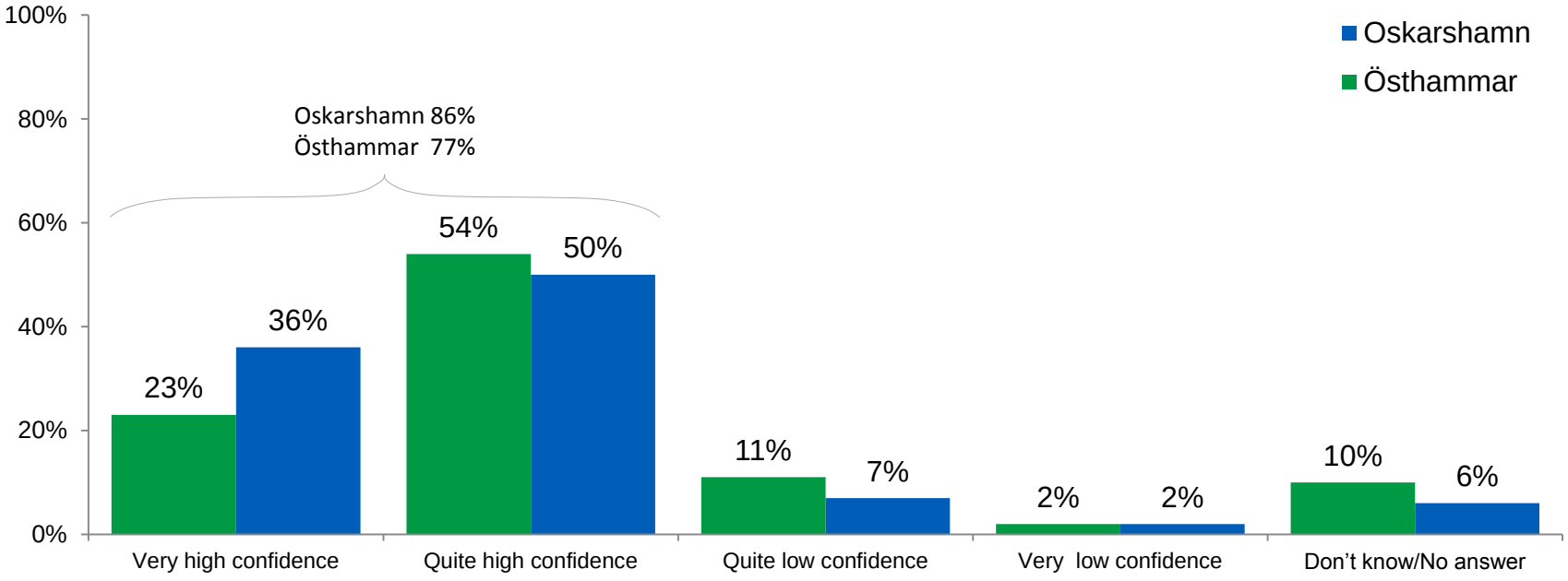


# Dialogue and openness


# Dialogue and openness

## What degree of confidence do you have in the company Svensk Kärnbränslehantering AB, SKB?




BASE: All (n = 800), year 2015

# Thank you for your attention!

## Now it´s time for facility visits